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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,258	10/19/2001	Jin Soo Lee	LGE-0016	7208

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EXAMINER
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TABATABAI, ABOLFAZL

ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/982,258 ✓

Applicant(s)

LEE ET AL.

Examiner

Abolfazl Tabatabai

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2001.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 2 is/are allowed.  
6) ☒ Claim(s) 1,3 and 5-10 is/are rejected.  
7) ☒ Claim(s) 4 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 19 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3 and 5-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishikawa et al (U S 5,296,945).

Regarding claim 1, Nishikawa discloses a method for extracting a face from a still image or moving image using color distortion information, the method comprising the steps of:

extracting the color distortion information from the given image (column 3, lines 66-68 and column 5, lines 46-55);

determining a skin color range in a color space using the extracted color distortion information (column 13, lines 11-46); and,  
extracting the face by extracting a skin color region using the determined skin color range (column 6, lines 8-32 and column 8, lines 30-39).

Regarding claim 3, Nishikawa discloses the method as claimed in claim 1 or 2, wherein the color distortion information is hue information (column 13, lines 63-66).

Regarding claim 5, Nishikawa discloses the method as claimed in claim 3,

Art Unit: 2625

wherein the step of determining the skin color range in the color space using the extracted color distortion information comprises the steps of:

predetermining entire skin color range in the specified color space (column 10, lines 27-31);

determining partial skin color ranges to be applied in a certain given image within the predetermined entire skin color range (column 9, lines 57-65);

comparing the hue of the extracted color distortion information with representative hues of the partial skin color ranges (column 2, lines 31-47 and column 4, lines 1-9); and,

determining a partial skin color range that its representative hue is closest to the hue of the color distortion information as a skin color range of the given image (column 5, lines 45-55 and column 13, lines 60-66).

Regarding claim 6, Nishikawa discloses the method as claimed in claim 5, wherein the representative hue of the partial skin color range is the average hue of the pixels that belongs to the partial skin color range (column 7, lines 3-8 and column 13, lines 60-66).

Claim 7 is similarly analyzed as claim 5 above.

Regarding claim 8, Nishikawa discloses the method as claimed in claim 1 or 2, wherein the color distortion information extracted by the above process is luminance information (column 7, lines 3-8).

Regarding claim 9, Nishikawa discloses the method as claimed in claim 8, wherein the color distortion information is extracted based upon an average luminance

Art Unit: 2625

of the pixels having a chroma below a predetermined threshold value (column 13, lines 60-67).

Regarding claim 10, Nishikawa discloses the method as claimed in claim 8, wherein the step of determining the skin color range in the color space using the color distortion information extracted as the luminance information comprises steps of:

predetermining the entire skin color range in the specified color space (column 10, lines 27-31);

determining partial skin color ranges in the entire skin color range, based upon the luminance information of the color distortion information (column 7, lines 3-8 and column 9, 57-65) ; and,

determining a partial skin color range corresponding to the luminance of the extracted color distortion information as the skin color range of the given image (column 5, lines 45-55; column 7, lines 3-8 and column 13, lines 60-66).

### **Allowable Subject Matter**

3. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. **Claim 2, is allowed.**

5. The following is an Examiner's statement of reasons for allowance.

The prior art of record fails to teach or suggest, obtaining a region that has a skin color and a motion is produced by logically multiplying the extracted difference image and the skin color region; designating a region satisfying a face ratio among the obtained

regions as a candidate of the face; and identifying the candidate of the face by a template matching in combination into other features and elements of claim 2.

### **Other Prior Art**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kim (U S 6,320,668 B1) discloses color correction apparatus and method in an image system.

Kinjo (U S 6,445,819 B1) discloses image processing method, image processing device, and recording medium.

Horii (U S 5,850,463) discloses facial image processing method and facial image processing apparatus.

Darrel et al (U S 6,188,777 B1) disclose method and apparatus for personnel detection and tracking..

### **Contact Information**

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to ABOLFAZL TABATABAI whose telephone number is (571) 272-7458.

The Examiner can normally be reached on Monday through Friday from 9:30 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Mehta Bhavesh M, can be reached at (571) 272-7453. The fax phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abolfazl Tabatabai

Patent Examiner

Group Art Unit 2625

June 25, 2005

*A-Tabatabai*

✓ *KJ Patel*  
KANJIHAJ PATEL  
PRIMARY EXAMINER